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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,168	10/17/2003	Yuk F. Chan	SP02-213	9524

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EXAMINER	
NGUYEN, PHU HOANG	
ART UNIT	**PAPER NUMBER**
1731	

DATE MAILED: 10/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/688,168	CHAN ET AL.	
	Examiner	Art Unit	
	Phu H. Nguyen	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 April 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) *18-27* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10/17/03* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2/182005;10/17/2003*
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-17, drawn to a method for forming a multicellular ceramic article, classified in class 264, subclass 630.

II. Claims 18-27, drawn to an apparatus for removing oil-based components, classified in class 126, subclass 99.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used to practice another materially different process such as drying clothes.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art due to their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

During a telephone conversation with Mr. Randall Wayland on September 28th 2006 a provisional election was made without traverse to prosecute the invention of group I, claims 1-17. Affirmation of this election must be made by applicant in replying to this Office action. Claims 18-27 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Information Disclosure Statement

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered. Applicant uses U.S Pat. Nos. 6080345, 6368992 and 3885977 as references in the specification.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 43 in Fig.2. Corrected drawing sheets in compliance with 37 CFR 1.121(d),

or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: In the Background of the Invention (paragraph 6), the first sentence contains "twin-wall" that should be "thin-wall".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In step d of claim 1, it states, "drying the green ceramic article". Then in step e, "the dried green ceramic article" is further being treated with flowing heated gas to

evaporate oil-based component. The phrase "dried green ceramic article" is indefinite since it is unclear as to what is removed from the article by drying.

For purpose of examination, the examiner will assume that the dried green ceramic article is not dried.

Claim 17 recites the limitation "the non-solvent" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 13-15,17 are rejected under 35 U.S.C. 102(b) as being anticipated by Lundsager (U.S Patent No. 4900698).

Regarding claims 1,17, Lundsager discloses the compositions of a ceramic article comprising of inorganic ceramic, polyolefin and plasticizer (line 49-61, column 19). Lundsager also discloses that mineral oil is a useful plasticizer (line 8, column 18). Lundsager further discloses the shaping operation and firing of the green body (line 13-45, column 19). Furthermore, Lundsager discloses removal of oil by heating in a forced air oven (line 14-16, column 5).

Regarding claim 2, Lundsager discloses that the ceramic article is a catalyst monolith (line 12-16, column 23).

Regarding claims 13-15, Lundsager discloses the traces of plasticizer remain after "bake out" will be completely removed in firing along with the polyolefin (line 13-16, column 20).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lundsager (U.S Patent No. 4900698) as applied in claim 1 above, further in view of Xun (U.S Patent No. 6287510).

Regarding claim 3, Lundsager did not disclose the monolith is a honeycomb. Xun discloses the method is suited to production of cellular monolith such as honeycombs (line 26-28, column 9). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to produce a honeycomb structure as taught by Xun.

Regarding claims 4-5, Lundsager generally teaches the use of forced gas. Changes in temperature, concentrations or other process conditions of an old process within the broad teaching of the prior art does not impart patentability in the absence of an unexpected result. *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955). Where the general conditions of a claim are disclosed in the prior art, it is not inventive to

discover the optimum or workable ranges by routine experimentation. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lundsager (U.S Patent No. 4900698) and Xun (U.S Patent No. 6287510) as applied to claim 5 above, further in view of Matsubara et al. (U.S Patent No. 4902459). Xun discloses the firing conditions (line 45 column 9 through line 37 of column 10). However, the combination of Xun (U.S Patent No. 6287510), Lundsager (U.S Patent No. 4900698) did not disclose the importance of flash point. Matsubara discloses the risk of fire during drying at a reduced flash point (line 4-9, column 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to stay below the flash point of the oil-based component to prevent a fire.

Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lundsager (U.S Patent No. 4900698), Xun (U.S Patent No. 6287510) and Matsubara et al. (U.S Patent No. 4902459) as applied to claim 6 above.

Regarding claim 7, Xun discloses temperature region of about 100-500 degree C overlapping temperature range of 110-165 degree C of this instant claim 7.

Regarding claim 8, Lundsager discloses removing the minderal oil by heating in a forced air oven overnight (line 14-17, column 5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use air as the heated gas.

Regarding claim 9, Xun discloses temperature region of about 100-500 degree C overlapping temperature range of 120-140 degree C of this instant claim 7.

Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lundsager (U.S Patent No. 4900698), Xun (U.S Patent No. 6287510) and Matsubara et al. (U.S Patent No. 4902459) as applied to claim 7 above, further in view of Wiech Jr. (U.S Patent No. 4717340).

Regarding claim 10, Wiech Jr. discloses that inert gas can be used in place of air if desired (line 9-16, column 4). Also, as discussed in the above claim 6, an ignitable mixture requires air. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made for desiring the inert property of nitrogen to eliminate the forming of ignitable mixture by using nitrogen as the process gas.

Regarding claim 11, Xun discloses temperature region of about 100-500 degree C overlapping temperature range of 155-160 degree C of this instant claim 11.

Regarding claim 12, in the Abstract, Wiech, Jr. also discloses recirculation of heated gas after condensation step. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to increase process efficiency by recirculation of nitrogen.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lundsager (U.S Patent No. 4900698) as applied to claim 1 above, further in view of Nakajima et al. (U.S Patent No. 4731208). Nakajima discloses (line 65-68, column 2) recycling the binder materials and fluid to increase process efficiency. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to recycle a portion of oil-based component to increase process efficiency.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-9,13-17 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 of U.S. Patent No. 6287510 in view of Lundsager (U.S Patent No. 4900698).

Regarding claims 1-9 and 17, claims 1-4 of U.S Patent No. 6287510 discloses a method of forming a honeycomb structure. Lundsager discloses removal of oil by heating in a forced air oven (line 14-16, column 5). Also, changes in temperature, concentrations or other process conditions of an old process within the broad teaching of the prior art does not impart patentability in the absence of an unexpected result. *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955). Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 220 F.2d 454, 456, 105 USPQ

233, 235 (CCPA 1955). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to remove oils by flowing a heated gas with effective flow rates and temperatures to produce a honeycomb.

Regarding claims 13-15, claim 1 of U.S Patent No. 6287510 discloses the firing steps at the end of the method for forming an article. Lundsager discloses the traces of plasticizer remain after "bake out" will be completely removed in firing along with the polyolefin (line 13-16, column 20). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to completely remove plasticizer with the polyolefin in the firing steps.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gheorghiu et al. (U.S Patent No. 5263263) discloses many variations of heated gas flow rates that can be utilized (line 7-12, column 7).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phu H. Nguyen whose telephone number is 571-272-25931. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

P.N
10/20/06

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